PROJECT NAME: YUKON CREEK

SUMMARY OF QUANTITIES				
Pay Item	**Description**	**Method of Measurement**	**Unit**	**Quantity**
15101	**Mobilization**	*LSQ*	*LS*	*1*
15201	**Construction Survey and Staking**	*LSQ*	*LS*	*1*
15713	**Soil and Erosion Control**	*LSQ*	*LS*	*1*
20304	**Removal of Culvert, Disposal Method (a)**	*LSQ*	*LS*	*1*
20806	**Structure Excavation**	*LSQ*	*LS*	*1*
25101a	**Placed Riprap, Class 4**	*CQ*	*CY*	*138*
25101b	**Placed Channel Rock, Class CR-5**	*CQ*	*CY*	*112*
25150	**Grade Control Structure**	*AQ*	*EACH*	*4*
27250	**Geocell Abutment Stabilization, 6 inch depth**	*CQ*	*SY*	*82*
30809	**Crushed Aggregate (Roadway), Compaction Method 2, Commercial Source**	*CQ*	*CY*	*80*
553A05	**Precast Concrete Member - Footings**	*LSQ*	*LS*	*1*
60201	**Corrugated Metal Pipe - Ditch Relief**	*LSQ*	*LS*	*1*
60304	**16' Span, 7'-1" Rise Structural Plate Arch, 10 Gauge Thickness for Steel**	*AQ*	*LF*	*58*
62201a	**Equipment Rental, Hydraulic Excavator with Thumb**	*AQ*	*HR*	*8*
62201b	**Equipment Rental, Large Dump Truck**	*AQ*	*HR*	*8*
62528	**Seeding, Fertilizing, and Mulching Dry Method**	*LSQ*	*LS*	*1*

GENERAL NOTES:

SPECIFICATIONS: CONSTRUCT THE PROJECT IN COMPLIANCE WITH FEDERAL HIGHWAY ADMINISTRATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS" (FP-03) AND APPLICABLE FOREST SERVICE SPECIAL SPECIFICATIONS (FSSS).

DESIGN SPECIFICATIONS: THIS STRUCTURAL PLATE ARCH IS DESIGNED FOR HL-93 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5TH ADDITION - 2010 WITH CURRENT INTERIMS.

CONCRETE: USE CONCRETE WITH 28 DAY COMPRESSIVE STRENGTH, F'C = 4,000 PSI. CONCRETE SHALL BE CLASS A(AE). CONCRETE SHALL HAVE A FORMED SURFACE FINISH. USE PRECAST CONCRETE FOOTINGS. PRECAST CONCRETE FOOTINGS SHALL REACH 28 DAY COMPRESSIVE STRENGTH BEFORE SHIPPING. PRECAST SECTIONS MAY BE BOLTED OR WELDED TOGETHER AS SHOWN ON SHEET 7. THE CONTRACTOR SHALL DESIGN LIFTING POINTS FOR PRECAST SECTIONS.

CHAMFER ALL EXPOSED EDGES OF CONCRETE AND FILLET ALL RE-ENTRANT ANGLES 3/4" UNLESS NOTED OTHERWISE.

REINFORCING STEEL: PROVIDE REINFORCING STEEL THAT CONFORMS TO ASTM A615 (AASHTO M31), GRADE 60. PROVIDE CONCRETE COVER AS SHOWN, AND WHERE NOT SHOWN, CONFORM TO AASHTO. USE MAXIMUM SPLICE LENGTHS FOR ALL BAR SIZES. ALL CUTTING AND BENDING OF REBAR SHALL CONFORM TO ASTM 315.

HARDWARE AND STRUCTURAL STEEL: USE STEEL STRUCTURE PLATE AND ALL FASTENERS CONFORMING TO AASHTO M167. PROVIDE MISCELLANEOUS GALVANIZED STEEL SHAPES, BARS AND PLATES MEETING AASHTO M183 (ASTM A36).

STRUCTURAL PLATE ARCH: THE STRUCTURE PLATE ARCH SHALL BE 7'-1" RISE, 16'-0" SPAN, 58' LENGTH WITH 6X2 CORRUGATIONS WITH GALVANIZED STEEL PLATE OF 10 GAUGE THICKNESS. STEEL PLATES SHALL BE CONNECTED PER MANUFACTURER'S SPECIFICATIONS. SUBMIT SHOP DRAWINGS FOR REVIEW.

SLASH:
ALL VEGETATION REMOVED DURING EXCAVATION SHALL BE STOCKPILED. SPREAD STOCKPILED SLASH ON FINISHED SLOPES AT THE DIRECTION OF THE CO.

SITE SPECIFIC NOTES:
1.) TRAFFIC CONTROL IS INCIDENTAL TO PAY ITEM 15101 MOBILIZATION.

2.) PAY ITEM 20304 IS DISPOSAL OF CULVERT ONLY. EXCAVATION OF EXISTING STRUCTURE IS INCIDENTAL TO STRUCTURE EXCAVATION - PAY ITEM 20806. STRUCTURE BACKFILLING IS INCIDENTAL TO PAY ITEM 20806.

3.) PAY ITEM 25101a, PLACED RIPRAP CLASS 4, QUANTITY INCLUDES RIPRAP USED TO PROTECT INLET AND OUTLET OF STRUCTURAL PLATE ARCH CULVERT AND OUTLET OF DITCH RELIEF CULVERT, AND ALL EFFORT TO PLACE RIPRAP.

4.) PAY ITEM 25101b, PLACED CHANNEL ROCK CLASS CR-5, QUANTITY INCLUDES ROCK USED FOR GRADE CONTROL STRUCTURES, BANKLINE ROCK, AND ALL EFFORT TO CONSTRUCT CHANNEL BANKLINE.

5.) PAY ITEM 25150, GRADE CONTROL STRUCTURES, INCLUDES ALL EFFORT TO CONSTRUCT GRADE CONTROL STRUCTURES AS SHOWN IN THE CONSTRUCTION DRAWINGS USING CLASS CR-5 CHANNEL ROCK. CHANNEL ROCK IS PAID UNDER PAY ITEM 25101b.

6.) PAY ITEM 60201 CORRUGATED METAL PIPE - DITCH RELIEF, INCLUDES ALL MATERIALS AND EFFORT TO CONSTRUCT THE DITCH RELIEF AS SHOWN IN THE CONSTRUCTION DRAWINGS. OUTLET PIPE SPLASH POOL RIPRAP QUANTITIES ARE INCLUDED IN PAY ITEM 25101a.

7.) A WASTE SITE WILL BE IDENTIFIED WITHIN 5 MILES OF THE PROJECT SITE FOR UNUSED EXCAVATION MATERIAL.

EXCAVATION & BACKFILL NOTES:

STRUCTURE EXCAVATION

1. SHALL BE COMPLETED IN ACCORDANCE WITH FP-03, SECTION 208.
2. LIMITS SHOWN ARE MINIMUM EXCAVATION REQUIREMENTS BASED ON ENGINEERS DETERMINATION OF OSHA SOIL TYPE B AND OSHA EXCAVATION REQUIREMENTS. DETERMINATION IS BASED ON SURFACE OBSERVATIONS AND ACTUAL SITE CONDITIONS MAY VARY. IF CONTRACTOR ENCOUNTERS A DIFFERENT SOIL TYPE THAN STATED ABOVE, CONTACT CO IMMEDIATELY.
3. CONTRACTOR SHALL SUBMIT AN EXCAVATION PLAN TO CO FOR APPROVAL. PLAN SHALL INCLUDE DRAWINGS AND WRITTEN OUTLINE ILLUSTRATING AND DESCRIBING PROPOSED EXCAVATION LIMITS, METHODS, EQUIPMENT, LOCATION OF STOCKPILES, AND ESTIMATED QUANTITIES AND COMPLY WITH OSHA EXCAVATION SOIL TYPING AND REQUIREMENTS. CHANGES TO THE EXCAVATION LIMITS SHOWN ON SHEET 3 FOR CONTRACTOR'S DEWATERING METHODS OR OTHER CONTRACTOR CONVENIENCE, MUST BE SHOWN ON THE PLAN AND ARE THE RESPONSIBILITY OF THE CONTRACTOR AND INCIDENTAL TO THE WORK.

STRUCTURE BACKFILL

1. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH FP-03, SECTION 208 AND MEET THE REQUIREMENTS OF FP-03, SECTION 704.04 STRUCTURAL BACKFILL.
2. BACKFILL LIMITS AS SHOWN ON SHEET 3 ARE MINIMUM REQUIREMENTS.
3. CULVERT IS SKEWED TO ROAD CENTERLINE. A MINIMUM AMOUNT OF STRUCTURE BACKFILL IS REQUIRED ADJACENT TO THE CULVERT. THIS "WARPED" BACKFILL MUST BE SHAPED AS SHOWN ON SHEETS 2 AND 3 AND COMPACTED AS NORMAL STRUCTURAL BACKFILL.
4. SATURATED SOILS ARE CONSIDERED UNSUITABLE FOR USE AS STRUCTURAL BACKFILL. ALL UNSUITABLE SOILS MUST BE HAULED AND DISPOSED TO THE DESIGNATED WASTE SITE.
5. NON-SATURATED STRUCTURE EXCAVATION MATERIAL IS ANTICIPATED TO BE SUITABLE FOR BACKFILL MATERIAL
   5.1. SOME MIXING AND SORTING MAY BE REQUIRED.
   5.2. MUST HAVE APPROVAL FROM CO PRIOR TO USE.
6. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH FP-03, 208.11 (AASHTO T99, METHOD C AND AASHTO T310).
7. BACKFILL QUANTITY IS FOR INFORMATION PURPOSES ONLY AND SHALL BE VERIFIED BY CONTRACTOR.

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REGION ONE

YUKON CREEK

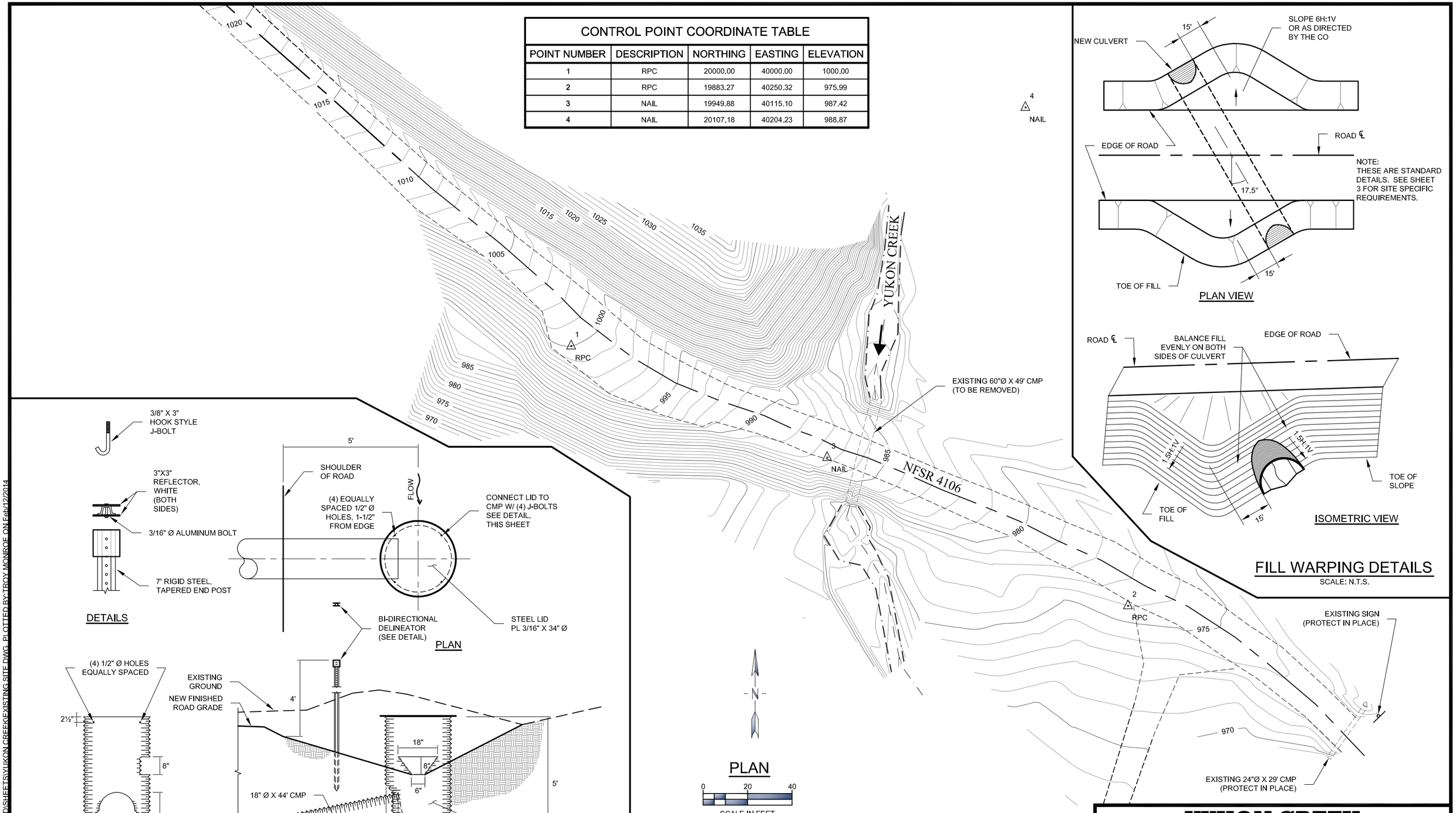
NFSR 4106, M.P. 6.0

SUMMARY OF ESTIMATED QUANTITIES & GENERAL NOTES

Designed By:TDM	Design Checked:----	Sheet: **1** of **9**
Drawn By:CRH	Drawing Checked:TDM	

M:\4835\002\ACADISHEETS\YUKON CREEK\QUANTITY SUMMARY GENERAL NOTES.DWG PLOTTED BY:TROY MONROE ON Feb/12/2014

CONTROL POINT COORDINATE TABLE				
POINT NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	RPC	20000.00	40000.00	1000.00
2	RPC	19883.27	40250.32	975.99
3	NAIL	19949.88	40115.10	987.42
4	NAIL	20107.18	40204.23	988.87



PLAN VIEW

ISOMETRIC VIEW

FILL WARPING DETAILS

SCALE: N.T.S.

PLAN

0 20 40

SCALE IN FEET

DETAILS

PLAN

FRONT DETAIL

ELEVATION

CMP DROP INLET DETAILS

SCALE: N.T.S.

NOTE:
ALL ITEMS SHOWN IN THIS DETAIL ARE CONSIDERED PART OF PAY ITEM 60201. INCLUDE ALL MATERIALS AND EFFORT TO ASSEMBLE AND INSTALL ALL ITEMS SHOWN AS PAY ITEM 60201.

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EXISTING SITE TOPOGRAPHY & MISCELLANEOUS DETAILS

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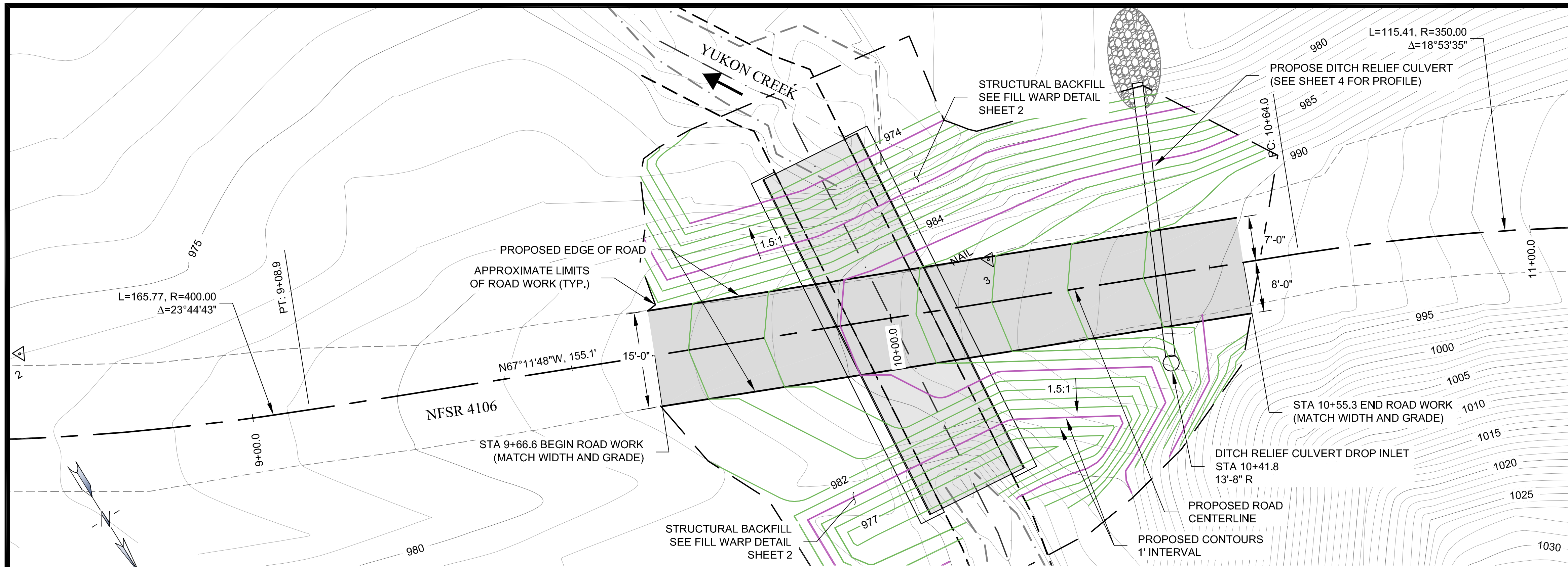
ROAD CENTERLINE COORDINATE TABLE

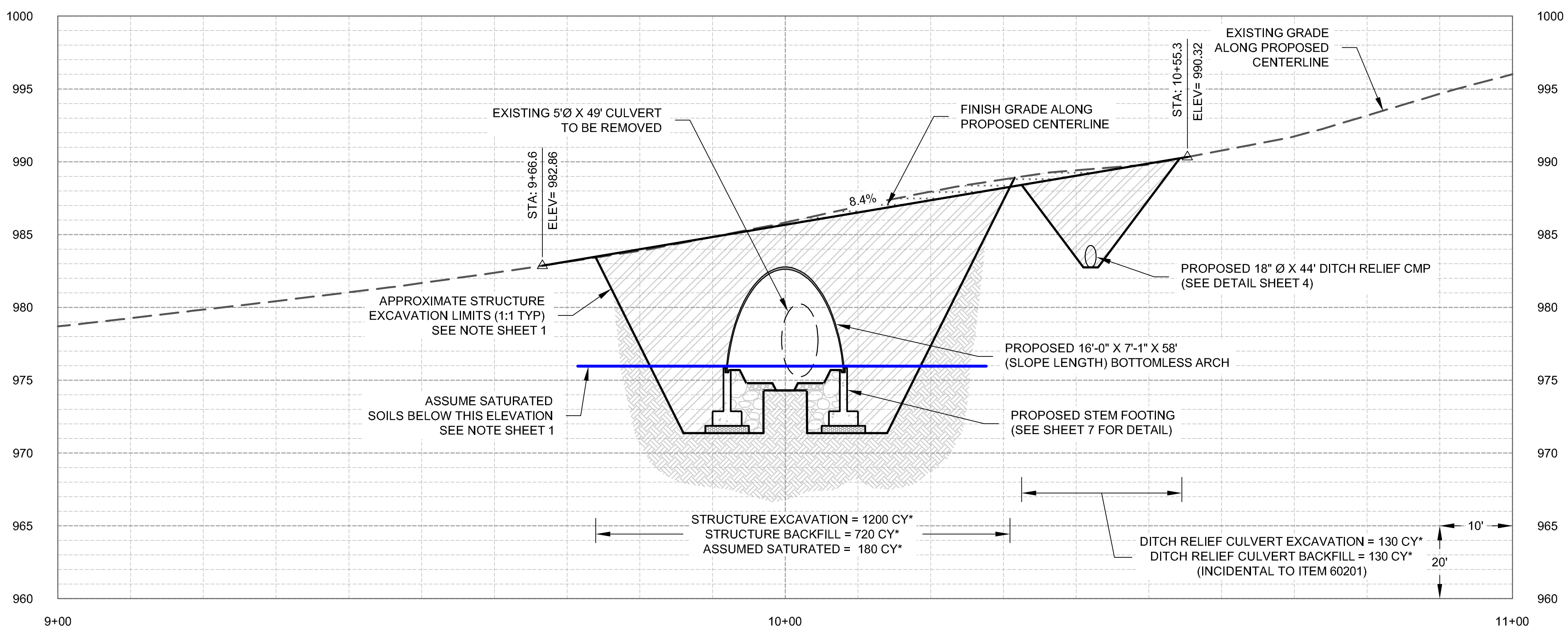
STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
9+66.6	BEGIN ROAD WORK	19936.6751	40163.5014	982.86
10+00.0	THALWEG CROSSING	19949.6121	40132.7304	985.65
10+55.3	END ROAD WORK	19971.0408	40081.7618	989.84



PLAN

0 10 20

SCALE IN FEET



PROFILE

NOTES:

1. A SOIL INVESTIGATION HAS NOT BEEN CONDUCTED AT THIS CULVERT SITE. IF BEDROCK IS ENCOUNTERED NOTIFY THE CO IMMEDIATELY. DO NOT PLACE FOOTINGS ON BEDROCK OR ANY OTHER UNSUITABLE BEDDING MATERIAL.
2. CLEARING AND GRUBBING SHALL BE INCIDENTAL TO THIS PROJECT. DISPOSE OF CLEARING AND GRUBBING DEBRIS PER FSSS 203.
3. CONTRACTOR SHALL DISPOSE OF EXCESS AND UNSUITABLE STRUCTURE EXCAVATION MATERIAL AT DESIGNATED WASTE AREA. CO WILL DESIGNATE A WASTE AREA WITHIN 5 MILES OF THE PROJECT.
4. SEED AND MULCH ALL DISTURBED AREAS AFTER CONSTRUCTION PER FSSS 625.

* QUANTITIES ARE ESTIMATES & PROVIDED FOR INFORMATIONAL PURPOSES ONLY

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ROAD PLAN AND PROFILE

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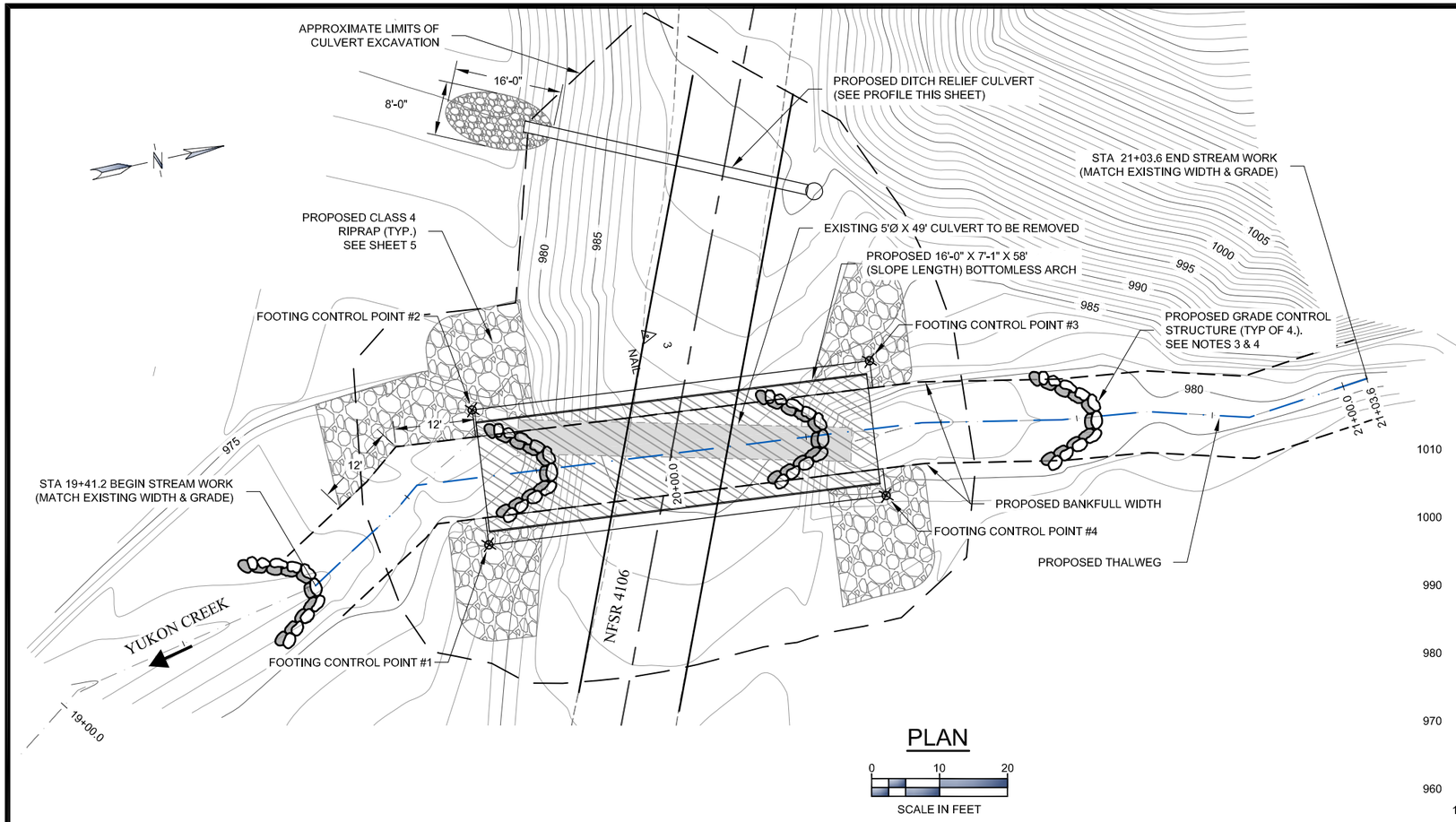


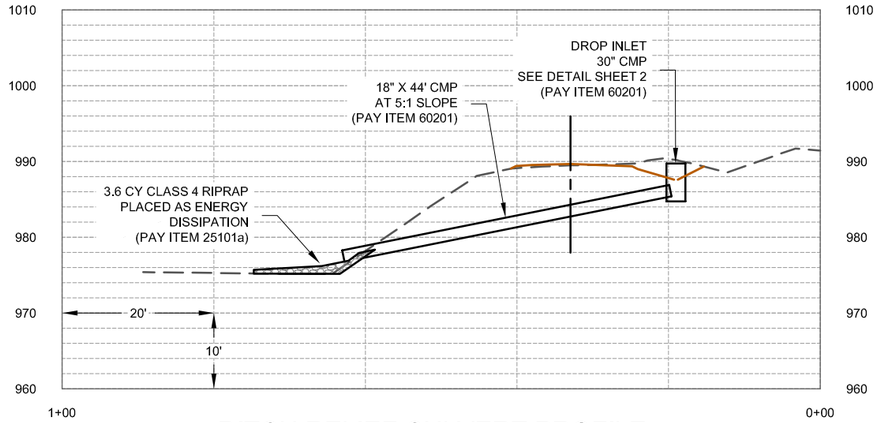
PLAN

0 10 20

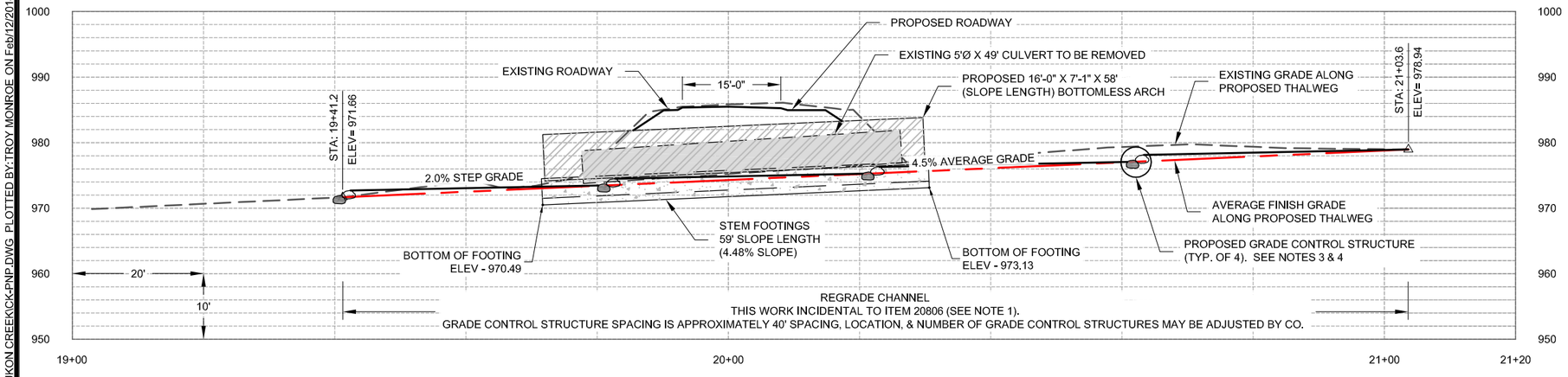
SCALE IN FEET

CREEK THALWEG COORDINATE TABLE

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
	FOOTING CONTROL POINT #1	19920.5120	40140.0827	970.49
	FOOTING CONTROL POINT #2	19922.3529	40120.1676	970.49
	FOOTING CONTROL POINT #3	19981.0435	40125.5928	973.13
	FOOTING CONTROL POINT #4	19979.2026	40145.5079	973.13
19+41.2	BEGIN STREAM WORK	19894.2871	40140.5056	971.66
19+57.6	THALWEG	19908.3442	40132.1297	972.39
19+62.3	THALWEG	19912.0331	40129.2563	972.60
20+00.0	ROAD CENTERLINE CROSSING	19949.6136	40132.7301	974.29
20+37.2	THALWEG	19986.6519	40136.1538	975.96
20+57.8	THALWEG	20006.8501	40140.1297	976.88
20+70.4	THALWEG	20019.4158	40141.6674	977.45
20+85.5	THALWEG	20033.8965	40145.6739	978.12
21+03.6	END STREAM WORK	20051.9832	40143.8042	978.94



DITCH RELIEF CULVERT PROFILE



PROFILE

NOTES:

1. UTILIZE NATIVE STREAMBED MATERIAL TO REGRADE AND SHAPE THE STREAM CHANNEL. REGRADE AND SHAPE THE CHANNEL WITHIN THE CULVERT PER DETAILS ON SHEET 6. REGRADE AND SHAPE THE CHANNEL OUTSIDE THE CULVERT PER THE TYPICAL CHANNEL SECTION DETAIL ON SHEET 6.
2. CONTRACTOR MUST DIVERT STREAM CHANNEL AROUND WORK AREA DURING CONSTRUCTION. CONTRACTOR MUST SUBMIT A STREAM DIVERSION PLAN AND SOIL EROSION CONTROL PLAN TO THE CO FOR APPROVAL PRIOR TO STARTING CONSTRUCTION.
3. GRADE CONTROL STRUCTURES FOLLOW THE GEOMETRY OF THE TYPICAL CHANNEL SECTION. GRADE CONTROL STRUCTURES DIP AT THE THALWEG AND RISE TO BANKLINE ELEVATION AT BOTH SIDES. MAY BE ADJUSTED BY CO. SEE DETAILS ON SHEET 5.
4. GRADE CONTROL STRUCTURES SHOWN IN PLAN AND PROFILE VIEW ARE FOR GRAPHICAL REPRESENTATION ONLY.

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CREEK PLAN AND PROFILE

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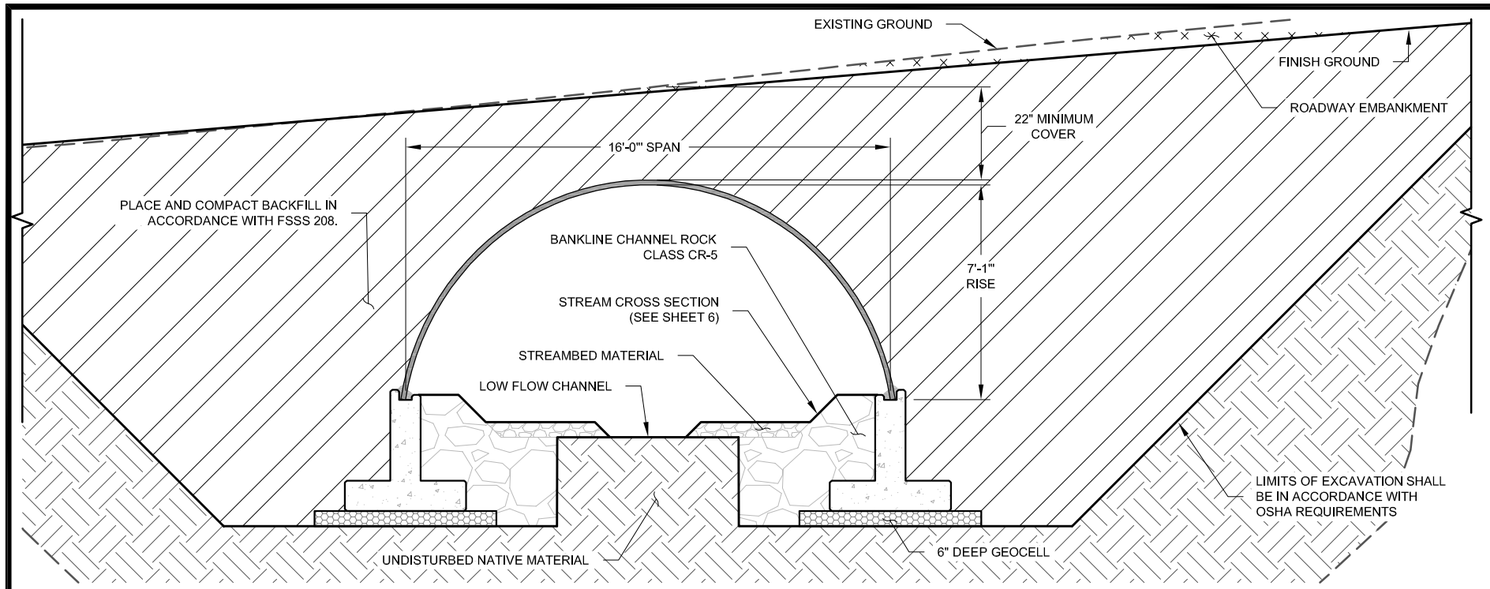
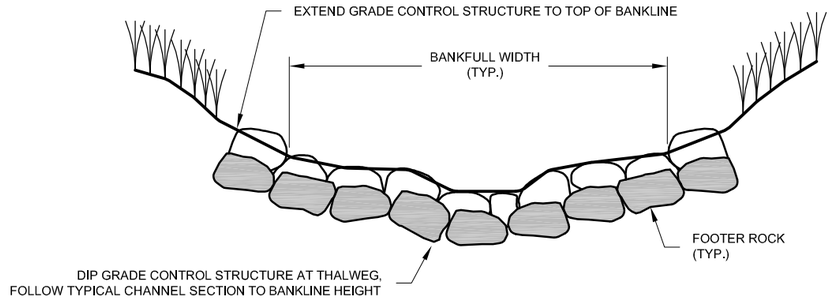


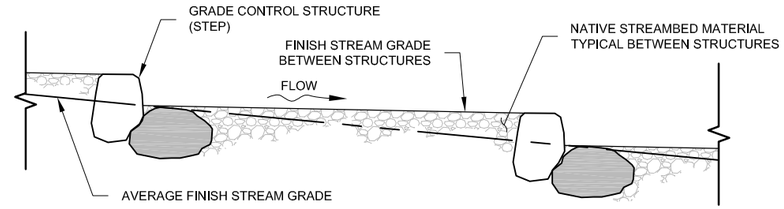
OPEN BOTTOM STRUCTURAL PLATE ARCH CULVERT DETAIL

SCALE: N.T.S.



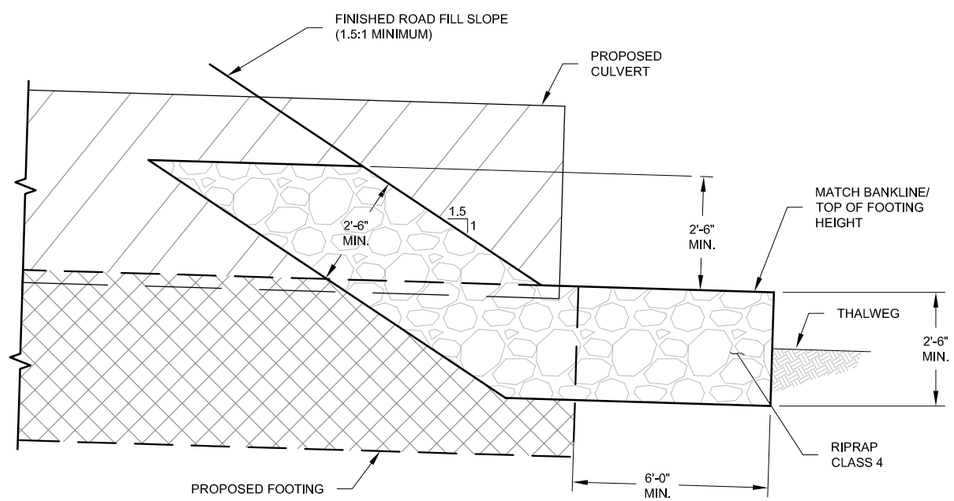
GRADE CONTROL STRUCTURE

SCALE: N.T.S.



GRADE CONTROL STRUCTURE - PROFILE VIEW

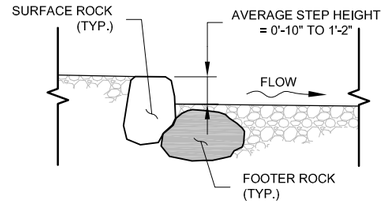
SCALE: N.T.S.



NOTE:
REFER TO SHEET 4 FOR LOCATION OF RIPRAP ALONG CULVERT INLET/OUTLET. EXTEND RIPRAP 16' HORIZONTAL BOTH SIDES OF THE CULVERT.

TYPICAL INLET/OUTLET RIPRAP PROFILE

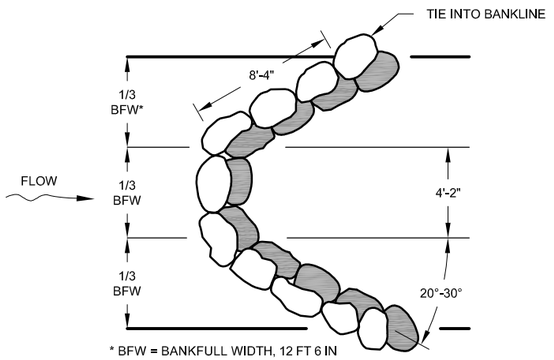
SCALE: N.T.S.



GRADE CONTROL STRUCTURE

ROCK WEIR/STEP POOL DETAIL

SCALE: N.T.S.

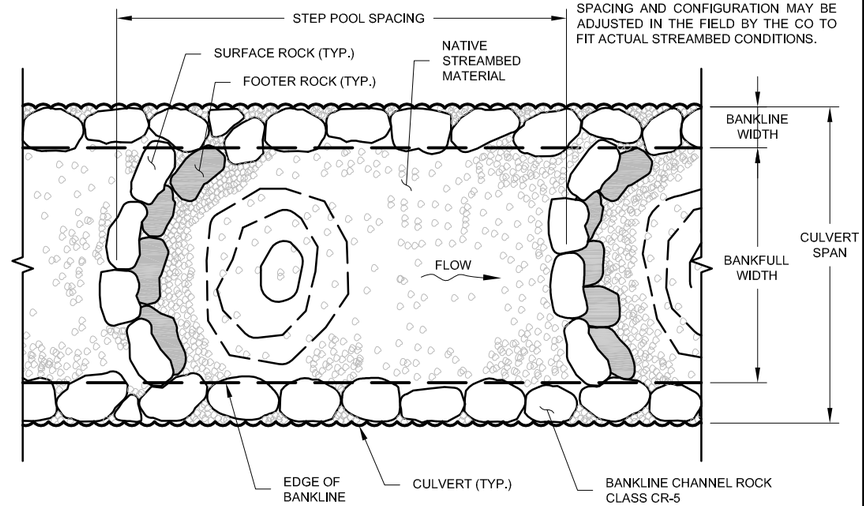


* BFW = BANKFULL WIDTH, 12 FT 6 IN

GRADE CONTROL STRUCTURE

ROCK WEIR DIMENSIONS

SCALE: N.T.S.



GRADE CONTROL STRUCTURE - PLAN VIEW

ROCK WEIR/STEP POOL STREAM TYPE

SCALE: N.T.S.

NOTES:

1. EXCAVATE THE FOUNDATION FOR ARCH FOOTING TO THE PROPER GRADE, PLACE AND COMPACT A 6 INCH DEEP GEOCELL ON UNDISTURBED GROUND IN ACCORDANCE WITH FSSS 272.
2. REGRADE THE STREAMBED TO THE EXTENTS SHOWN ON THE DRAWINGS. MECHANICALLY COMPACT NATIVE STREAMBED AS DIRECTED BY CO. ENSURE ALL VOIDS WITHIN THE STREAMBED AND GRADE CONTROL STRUCTURES ARE FILLED. ALL STREAMBED WORK INCIDENTAL TO ITEM 20806.
3. EACH GRADE CONTROL STRUCTURE UTILIZES APPROXIMATELY 2.3 CY TO 4.1 CY OF CLASS CR-5 CHANNEL ROCK. CONTRACTOR TO VERIFY.

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GRADE CONTROL & STRUCTURE DETAILS

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Drawn By:CRH	Drawing Checked:TDM	

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